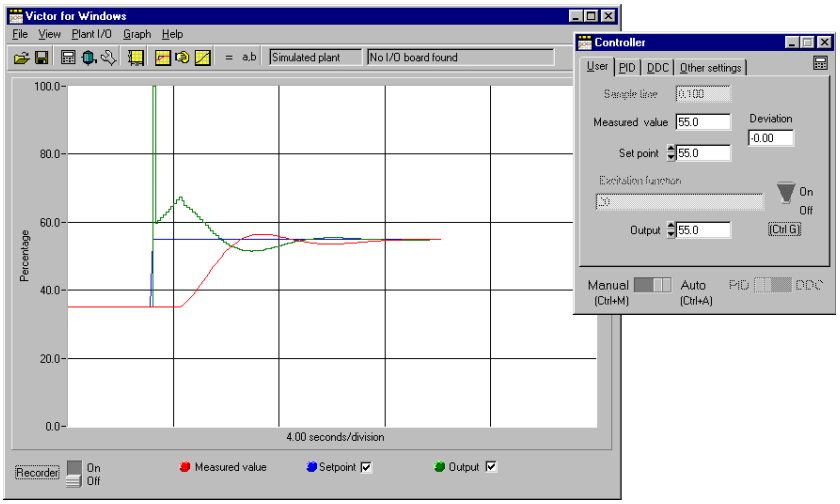
BYTRONIC
Educational Technology

Virtual Instrument Control Software WinVIC



Key Features:

- Transforms the PC into a real-time controller
- PID control or DDC
- Internal Plant Simulation
- External Control Mode
- Built in trend-recorder
- Current and historical data can be saved, recalled, examined and printed

WinVIC is software based fully function real-time controller that can operate either as a standard three-term (PID) controller or implement general Direct Digital Control (DDC). Its built-in trend-recorder removes the need for any further recording hardware. The package may be used either in "Emulation" mode where typical process plant behaviour is simulated in a realistic manner by the program, or in External mode where WinVIC controls an external process via an analogue interface card. The highly optimised and efficient code allows sample times as low as 14ms to be employed, so that relatively fast systems can be controlled on-line.

When WinVIC is used as a DDC device, the control law is specified simply as a z-domain transfer function. The controller transfer function, Gc (z), is simply entered in free format. Thus it is very simple to prototype and test DDC algorithms that have been developed. WinVIC helps you to modify and adjust controllers with the minimum of difficulty before implementing them in dedicated systems. WinVIC is a valuable supplement in teaching digital control and it is an excellent tool for projects and research.

Curriculum Coverage

- Introduction
- A brief tour of VICTOR.
- The recorder panel
- The controller
- The history panel
- Using an excitation function, parameters
- Closed-loop PID control, set-point changes
- Load disturbance
- Conclusion and Exercises
- Static characteristics of process plant
- Static process gain
- Non-dimensional static gain
- Dynamic characteristics and models
- Exponential (first-order) lag
- Time constant
- Two exponential lags: cascaded lags
- Effective time constant
- Transport delays
- Process control basics
- Proportional control
- Auto/Manual
- Bumpless transfer
- Proportional band
- Offset and stability
- Proportional plus integral control
- Open-loop response of a PI controller
- Closed-loop response of a PI controller
- Reset windup
- Controlling the PT326 Process Trainer
- Initial connections
- Manual operation and static calibration
- Step response test
- Ziegler Nichols parameters
- Ziegler Nichols Tuning
- Dynamic model
- Discrete time controller using pole-placement

Labworks

- 1. Static characteristic of a plant and its static gain
- 2. Open-loop response of single exponential lags
- 3. Open-loop response with two lags
- 4. Effect of transport delays
- 5. Proportional control, offset and stability
- 6. Regulation performance
- 7. Open-loop response of a PI controller
- 8.1. Closed-loop response of a PI controller: set-point following
- 8.2. Closed-loop response of a PI controller: regulation
- 9. Reset windup

Ordering Information

Consists of :	Software CD and Software protection dongle Installation instructions Instruction Manual
Licence Agreement	**Order Code**
Single user licence, Stand Alone	WinVIC
Additional licences, Stand Alone	WinVIC /x
10 user licence Network	WinVIC 10/n
20 users licence Network	WinVIC 20/n
50 user licence Network	WinVIC 50/n

Required

A suitable PC with Minimum; Pentium processor, 1GB RAM, 20GB HDD, CDROM Drive, USB 2 interface and Windows XP or above

Additional licences Network	WinVIC /xn

Weights and Dimensions

Un-Packed		**Packed**	
Approximate Dimensions (mm)	210W x 20D x 300H	Approximate Dimensions (mm)	250W x 25D x 350H
Approximate Weights	0.5Kg	Approximate Weights	1Kg

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